

REMARKS

Claims 1-68 are all the claims pending in the application, prior to the present Amendment.

Claims 6, 8, 24, 28, 29 and 30 have been rejected under 35 U.S.C. 112, second paragraph, as being indefinite.

The Examiner sets forth a number of reasons for this rejection. Applicants discuss these reasons below.

With respect to claims 6 and 8, although applicants disagree with the rejections, applicants have amended the claims by removing the parentheses and inserting commas where appropriate. Applicants advise the Examiner that each of the particle groups are referring to a different metal oxide powder.

With respect to claim 24, applicants have amended 24 as set forth above to respond to the lack of antecedent basis rejection for the term "the titanium dioxide" in line 2.

With respect to claims 28 and 30, applicants have amended these claims to depend from claim 27 to respond to the lack of antecedent basis rejection.

With respect to claim 29, applicants have amended the term "the monomer unit" in line 1 to read -- a monomer unit-- to respond to the lack of antecedent basis rejection.

In view of the above, applicants submit that the claims comply with the requirements of the second paragraph of 35 U.S.C. § 112 and, accordingly, request withdrawal of this rejection.

Claims 1-3, 24-29, and 32 have been rejected under 35 U.S.C. 102(b) as being anticipated by WO 02/067357 to Murofushi et al.

Applicants submit that WO 02/067357 to Murofushi et al does not disclose or render obvious the presently claimed invention and, accordingly, request withdrawal of this rejection.

In the Office Action, the Examiner refers to various paragraph numbers of Murofushi et al. The WO Murofushi et al document does not contain paragraph numbers, but the corresponding EP 1 363 348 document does contain paragraph numbers. Applicants believe the Examiner is referring to the paragraph numbers of the corresponding EP document.

The present invention as set forth in claim 1 as amended above is directed to a metal oxide dispersion comprising metal oxide particles with a necking structure in a solvent, wherein the liquid droplet contact angle of the metal oxide dispersion to an ITO film (Indium-Tin Oxide type film) is from 0 to 60°, wherein the solvent comprises water and an alcohol.

Thus, applicants have amended claim 1 to incorporate the recitations of claim 3 to recite that the solvent comprises water and an alcohol. Applicants have canceled claim 3.

According to the metal oxide dispersion of the present invention of amended claim 1, the solvent of the dispersion comprises water to expedite dispersion of the metal oxide particles therein, and the solvent further comprises an alcohol such that the metal oxide dispersion has an appropriate liquid droplet contact angle to the ITO film. See page 50, sixth line from the bottom to page 52, line 6 of the present specification.

Regarding this, the wettability of an electrode substrate by a metal oxide dispersion is important in order to lower the resistance between the electrode substrate and metal oxide layer to be formed. See page 4, line 28 to page 5, line 3, and page 87, Table 1 of the present specification.

The effect of the combination of water and an alcohol is apparent from the comparison between Example 1 and Comparative Example 1 which is same as Example 1 except for using 50 g of water in place of 50 g of ethanol, i.e. not using ethanol as a solvent rather using water only as a solvent.

Murofushi et al do not teach or suggest the effect of a solvent comprising water and an alcohol in combination, although the cited part of Murofushi et al in paragraph [0042] of European Patent No. 1,363,348 (A1) includes the following description:

[0042] As the solvent to used for the dispersion, any volatile liquids may be used without any limitation so far as it can promote the mixing of the metal oxide fine particles and the binder by dispersing metal oxide fine particles and at the same time dispersing, dissolving or swelling the binder. Specifically, volatile liquids having a hydroxy group, a carboxyl group, a ketone group, an aldehyde group, an amino group, or an amido group in the skeleton thereof are preferred. For example, water, methanol, ethanol, butanol, methyl cellosolve, ethylene glycol, acetic acid, acetylacetone, turpentine oil, and methylpyrrolidone may be used singly or as mixtures thereof.

In view of the above, applicants submit that Murofushi et al do not disclose or render obvious the presently claimed invention and, accordingly, request withdrawal of this rejection.

The Examiner sets forth three additional rejections of various dependent claims over Murofushi et al as a primary reference. The three rejections are as follows.

Claims 6 and 7 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Murofushi et al (WO 02/067357) as applied to claim 6 above, and further in view of Wantanabe et al (EP 1271581) .

Claim 8 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Murofushi et al (WO 02/067357) and Wantanabe et al (EP 1271581) as applied to claim 6 above, and further in view of Koyanagi et al (U.S. 6,849,797).

Claim 30 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Murofushi et al (WO 02/067357) as applied to claim 1 above, and further in view of PG-PUB US 2003/0162016 to Tanaka et al. (PG-PUB US 2003/0162016).

Claims 6, 7, 8 and 30 are dependent claims that depend from claim 1. Accordingly, applicants submit that these claims are patentable over Murofushi et al for the same reasons as discussed above that claim 1 is patentable over Murofushi et al. The secondary references do not supply the deficiencies of Murofushi et al.

In view of the above, applicants request withdrawal of these rejections.

Claim 31 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Murofushi et al (WO 02/067357).

Applicants have canceled claim and, accordingly, request withdrawal of this rejection.


In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.111
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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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